

Applicant : Wolf Bertling et al.

Attorney's Docket No.: 1348-017001 / 412018GA-rp

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REMARKS

Applicants respectfully request entry of the amendments and remarks submitted herein. Claims 3-21 have been amended to remove multiple claim dependencies, and new claims 22-28 have been added. Support for the claim amendments and new claims 22-28 can be found in the originally filed claims and throughout the specification. Therefore, claims 1-28 are currently pending. Attached is a marked-up version of the changes being made by the current amendments. Reconsideration of the pending application is respectfully requested.

In addition, Applicants have amended the specification to include a paragraph describing related applications and claiming the benefit of priority to such applications, to remove the paragraph on page 2 that refers to claim numbers, and to add an Abstract. The attached Abstract is the Abstract that was published with the PCT application. Therefore, Applicants submit that there is no new matter introduced by these amendments.

CONCLUSION

Applicants ask that claims 1-28 be examined. The enclosed filing fee takes into account claims added by this Preliminary Amendment. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADEIn the Specification:

A paragraph describing related applications has been added to page 1 after the title.

The paragraph on page 2, lines 27-29 has been deleted.

In the Claims:

Claims 1 and 3-21 have been amended as follows:

1. (Amended) A method for labeling and identifying solid, liquid and gaseous substances (S1-n), comprising the steps of:

[wherein labeling is carried out by] selecting at least one nucleic acid molecule [sequence] from a first group of predefined nucleic acid molecules [sequences] (N1-n), wherein each of the predefined nucleic acid molecules comprises [having in each case] an identification sequence section (IDS1-n) [and adding it to the substance (S1-n)],

contacting the substance (S1-n) with at least one predefined nucleic acid molecule (N1-n),

providing [wherein] a second group of [further] nucleic acid molecules [sequences] (N'1-n), wherein each nucleic acid molecule of the second group of nucleic acid molecules comprises [which have in each case] a detection sequence section (IDP1-n) complementary to one of the identification sequence sections (IDS1-n), [is provided for identification,

wherein first melting points of hybrids formed from the identification sequence sections (IDS1-n) together with the detection sequence sections (IDP1-n) complementary thereto differ by not more than 5°C from one another and

second melting points of not completely complementary hybrids from the identification sequence sections (IDS1-n) and detection sequence sections (IDP1-n) are more than 5°C lower than the lowest of the first melting points and

wherein identification is carried out by] contacting the [nucleic acid sequence(s) (N1-n) selected from the first group] substance (S1-n) with the [further] nucleic acid molecules [sequences] (N'1-n) provided from [of] the second group under predefined hybridization conditions; and

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detecting hybridization.

3. (Amended) The method as claimed in claim [1 or] 2, wherein said identification sequence section (IDS1-n) comprises two identification sequence sections (IDS-A, IDS-B) [in each case two nucleic acid sequences (N1-n) have a part section (IDS-A, IDS-B) or a common identification sequence section (IDS1-n) at their 5' end and a primer binding sequence section is bound to said part section (IDS-A, IDS-B)].

4. (Amended) The method as claimed in claim 3, wherein the [part sections] identification sequence sections (IDS-A, IDS-B) are [partly] complementary to one another.

5. (Amended) The method as claimed in claim 2 [any of the preceding claims], wherein the primer binding sequence sections (PBS1, PBS2) have the same melting point.

6. (Amended) The method as claimed in claim 1 [any of the preceding claims], wherein the nucleic acid molecules [sequences] (N1-n) are amplified[, preferably by means of PCR and by using fluorescent primers].

7. (Amended) The method as claimed in claim 1 [any of the preceding claims], wherein the predefined nucleic acid molecules [sequences] (N1-n) are linked on at least one end to an agent which counteracts degradation caused by exonuclease.

8. (Amended) The method as claimed in claim 1 [any of the preceding claims], wherein the predefined nucleic acid molecule [sequence] (N1-n) is provided with a coupling group (A, B, C, D-Z).

9. (Amended) The method as claimed in claim 8 [any of the preceding claims], wherein the coupling group (A, B, C, D-Z) is selected from the [following] group consisting of [[sic]]: a biotin group, an amino group, a thiol group, and a [or] hapten.

10. (Amended) The method as claimed in claim 1 [any of the preceding claims], wherein a molecule carrying a fluorophoric group (F11-n) is bound to the predefined nucleic acid molecule [sequence] (N1-n).

11. (Amended) The method as claimed in claim 8 [any of the preceding claims], wherein the coupling group (A, B, C, D-Z) is labeled with a fluorophoric group.

12. (Amended) The method as claimed in claim 1 [any of the preceding claims], wherein the predefined nucleic acid molecules [sequences] (N1-n) are bound to the substance (S1-n) and wherein the substance (S1-n) [used] is selected from the group consisting of [one of the

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following agents:] antibodies, lectins, receptors, nucleotide sequences, PNA sequences, peptides, proteins, sugars, and ligands.

13. (Amended) The method as claimed in claim 1 [any of the preceding claims], wherein the predefined nucleic acid molecules [sequences] (N1-n) are bound to particles (P) or are included therein.

14. (Amended) The method as claimed in claim 13 [any of the preceding claims], wherein the particles (P) are from 30 nm to 3 mm in size.

15. (Amended) The method as claimed in claim 13 [any of the preceding claims], wherein the particles (P) are silica, polystyrene, polyvinyl chloride, polyethylene, nylon or glass milk particles.

16. (Amended) The method as claimed in claim 13 [any of the preceding claims], wherein the particles (P) [is] are selected from the group consisting of a viral capsid [or] and a virus-like particle.

17. (Amended) The method as claimed in claim 1 [any of the preceding claims], wherein each of the [further] second group of nucleic acid molecules [sequences] (N'1-n) is bound to a predefined site on a solid surface[, preferably on a chip, a microtiter plate or film].

18. (Amended) The method as claimed in claim 1 [any of the preceding claims], wherein hybridization of an identification sequence section (IDS1-n) with a complementary detection sequence section (IDP1-n) is detected by means of fluorescence.

19. (Amended) The method as claimed in claim 1 [any of the preceding claims], wherein at least two predefined nucleic acid molecules [sequences] (N1-n) are added to the substance (S1-n) as a label.

20. (Amended) The method as claimed in claim 1 [any of the preceding claims], wherein the predefined nucleic acid molecules [sequences] (N1-n) and/or the [further] second group of nucleic acid molecules [sequences] (N'1-n) are prepared synthetically.

21. (Amended) The method as claimed in claim 1 [any of the preceding claims], wherein the first group of predefined nucleic acid molecules (N1-n) and the second group of nucleic acid molecules (N'1-n) comprise nucleic acid analogs [chimeras of nucleic acids and nucleic acid analogs, such as PTO or PNA, are used instead of the nucleic acid sequences or the further nucleic acid sequences].

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New claims 22-28 have been added.

In the Abstract:

The Abstract on the attached page has been added to the application.